

Application No.: 10/029,272
Amendment dated: September 17, 2003
Examiner: Josiah C. COCKS

REMARKS

The claims have been amended to improve the clarity of the claimed subject matter and to bring the claims into conformity with U.S. Practice and format, and to place the application fully in condition for allowance. All of the amendments are fully supported by the original disclosure of this application and therefore do not constitute the introduction of any new matter into this case.

Applicant thanks the Examiner for indicating that the original drawings are acceptable.

Claims 1-7 remain pending upon entry of the amendments to the claims above.

Claim Rejections under 35 U.S.C. § 102

Claims 1-7 are rejected under 35 U.S.C. § 102 as being anticipated by U.S. 4,213,448 (Hebert). Claims 1-7 have been amended to place same more in accord with U.S. practice and format. The claims have not been amended to overcome the reference to Hebert. If the rejection is to be maintained, Applicant respectfully traverses such finding.

Applicant respectfully wishes to direct the Examiner's attention to MPEP § 2131 which states that to anticipate a claim, the reference must teach every element of the claim. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed.Cir. 1990).

In the device of Hebert, a heating side is directed to interlink with a cooling side in a bottom of the device such that the heating side causes a volume expansion of the working fluid, wherein parts of the volume of the working fluid is pushed upwards to transport the working fluid to the cooling side, and remaining parts of the volume of the working fluid is pushed downwards from the bottom to the cooling side. Hence, this will not cause 100% of the working fluid to be pushed towards thermal expansion.

In contrast, in the claimed invention, the partition 3 of the heating side 5 proximate to a bottom of the heat pipe 1 that separates the interior of the loop heat pipe 1 on the heating side 5 to an upper zone 7A and a lower zone 7B. The importance of such structure in the claimed invention is that the upper zone 7A and the lower zone 7B communicate by means of a narrow piping element or a capillary 4 to easily transport the working fluid 7 from the lower zone 7B to the upper zone 7A, and which avoids the problem of reversed flow fluid, which the device of Hebert cannot achieve.

Further, the function of the partition 3 of the claimed invention permits a resistant effect (changing the direction of liquid flow) but not an adjusting effect (as the function of the device of Hebert) in that a vapor from the working fluid 7 in the upper zone 7A will form a driving pressure. As a result, in the claimed invention, the working fluid 7 contained in the lower zone 7B will be forced to flow into a bottom opening end 4B from the capillary 4 and eject out through a top opening end 4A, and hit the damper 2.

Due to the force of gravity and the design of the damper 2 of the claimed invention, the ejected working fluid 7 will be sprayed directly on the pipe wall of the heat pipe 1 and flow down along the pipe wall surface to produce heat exchange effect with the heating apparatus 5A on the heating side 5. Therefore, a "film evaporation effect" will take place between the working fluid and the pipe wall to achieve a superior thermal conduction, which is not possible in the device of Hebert.

In particular, the claimed invention is able to resolve the problem of downward thermal expansion from the bottom to the cooling side, because the bottom of the

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heating end is formed on the partition 3. In the claimed invention, there is almost a perfect efficiency for upwardly pushing the working fluid with a thermal expansion from the heating side 5 to the cooling side 6.

In summary, it is respectfully submitted that none of the prior art individually or collectively shows the invention as claimed. Accordingly, withdrawal of the rejection of the claims appears to be warranted and the same is respectfully requested. In the event there are any outstanding matters remaining in the present application which can be resolved by a telephone call or facsimile communication to Applicant's Attorney, the Examiner is invited to contact the undersigned by telephone or facsimile at the numbers provided below.

Respectfully submitted,
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